

Catholic Identity: Integration of Our Faith

- 3.1A display a deep sense of wonder and delight about the natural universe *
- 3.1B describe the unity of faith and reason *
- 3.1C describe relationships, elements, underlying order, harmony, and meaning *
- 3.1D share concern and care for the environment as part of God’s creation *

Learning Process Standards

3.2 The student uses scientific practices during laboratory and scientific investigations and uses critical thinking and scientific problem solving to make informed decisions. The student will explain how science limits its focus to “how” things physically exist and is not designed to answer issues of meaning, the value of things, or the mysteries of the human person. * The student will list the basic contributions of significant Catholics to science. *

Tools to Know		Ways to Show	
3.2A	plan and conduct investigations	3.2C	record and organize data and observations
3.2B	collect information using appropriate scientific tools	3.2D	communicate observations about investigations
		3.2E	represent the natural world using models

Physical Properties of Matter

3.3 Matter and energy. The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used. The student will explain what it means to say that God created the world and all matter out of nothing at a certain point in time; how it manifests His wisdom, glory, and purpose; and how He holds everything in existence according to His plan. *

Applied Standards		Supporting Standards	
3.3A	measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float	3.3A.1	describe and classify samples of matter as solids, liquids, and gases and demonstrate that solids have a definite shape and that liquids and gases take the shape of their container
		3.3A.2	predict, observe, and record changes in the state of matter caused by heating or cooling such as ice becoming liquid water, condensation forming on the outside of a glass of ice water, or liquid water being heated to the point of becoming water vapor
		3.3A.3	explore and recognize that a mixture is created when two materials are combined such as gravel and sand or metal and plastic paper clips

Force, Motion, and Energy

3.4 Force, motion, and energy. The student knows that forces cause change and that energy exists in many forms.

3.4A	explore different forms of energy, including mechanical, light, sound, and thermal in everyday life		
3.4B	demonstrate and observe how position and motion can be changed by pushing and pulling objects such as swings, balls, and wagons	3.4B.1	observe forces such as magnetism and gravity acting on objects

Natural Resources and Changes to Earth’s Surface

3.5 Earth and space. The student knows that Earth consists of natural resources and its surface is constantly changing. The student shares care and concern for the environment through the processes of conservation, preservation and stewardship. *

3.5A	explore and record how soils are formed by weathering of rock and the decomposition of plant and animal remains		
3.5B	investigate rapid changes in the Earth’s surface such as volcanic eruptions, earthquakes, and landslides		

Space and Weather	
3.5	Earth and space. The student displays a sense of wonder and delight about the natural universe knowing that there are recognizable patterns in the natural world and among objects in the sky. * The student will explain how creation is an outward sign of God’s love and goodness and therefore, is “sacramental” in nature. *
3.5C	construct models that demonstrate the relationship of the Sun, Earth, and Moon, including orbits and positions
	3.5C.1 describe and illustrate the Sun as a star composed of gases that provides light and thermal energy 3.5C.2 identify the planets in Earth’s solar system and their position in relation to the Sun
3.5D	observe, measure, record, and compare day-to-day weather changes in different locations at the same time that include air temperature, wind direction, and precipitation

Relationships Within Environments	
3.6	Organisms and environments. The student knows and can describe patterns, cycles, systems, and relationships within the environments and explains how creation is an outward sign of God’s love. *
3.6A	observe and describe the physical characteristics of environments and how they support populations and communities of plants and animals within an ecosystem
	3.6A.1 describe environmental changes such as floods and droughts where some organisms thrive and others perish or move to new locations
3.6B	identify and describe the flow of energy in a food chain and predict how changes in a food chain affect the ecosystem such as removal of frogs from a pond or bees from a field

Survival of Plants and Animals	
3.6	Organisms and environments. The student knows that organisms undergo similar life processes and have structures that help them survive within their environments and gives examples of the beauty evident in God’s creation. *
3.6C	explore how structures and functions of plants and animals allow them to survive in a particular environment
	3.6C.1 describe environmental changes such as floods and droughts where some organisms thrive and others perish or move to new locations
3.6D	investigate and compare how animals and plants undergo a series of orderly changes in their diverse life cycles such as tomato plants, frogs, and lady beetles